

Since every site is unique, some factors or situations concerning the use of type III foundry sands may not be addressed in this guidance document. A written approval from IDEM may be necessary for uses not specified in this guidance. Please note that approval from local government or other state or federal agencies may also be necessary. If you need additional information, or have any questions or concerns, please contact staff in the Special Waste Section, Office of Solid and Hazardous Waste Management at 317/232-3111 or at 317/232-3210. The IDEM toll-free number is 1-800-451-6027.

## IDEM

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Nonrule Policy Document

**Title:** Use of Foundry Sands in Accordance with House Enrolled Act 1541

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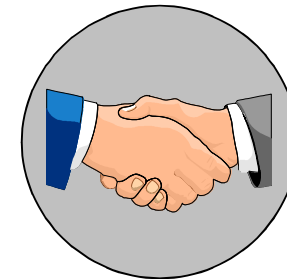
**Other Policies Repealed or Amended:**

**Brief Description of Subject Matter:** The following guidance is offered so that type III foundry sands may be used in a manner that complies with state regulations and is protective of the environment. Storage of foundry sand is discussed in other guidance.

**Citations Affected:** IC 13-19-3-7.

This nonrule policy document is intended solely as guidance and does not have the effect of law or represent formal Indiana Department of Environmental Management (IDEM) decisions or final actions. This nonrule policy document shall be used in conjunction with applicable laws. It does not replace applicable laws, and if it conflicts with these laws, the laws shall control. A revision to this nonrule policy document may be put into effect by IDEM once the revised nonrule policy document is made available for public inspection and copying. IDEM will submit revisions to the Indiana Register for publication.

# FOUNDRY SAND USE



## **USE OF FOUNDRY SANDS IN ACCORDANCE WITH HOUSE ENROLLED ACT 1541**

House Enrolled Act (HEA) 1541 (P.L.129-1997) includes several uses of foundry sand that meets type III criteria as specified in 329 IAC 10-9-4. This statute, which is codified under IC 13-19-3-7, became effective July 1, 1997. The following guidance is offered to interpret HEA 1541 (P.L.129-1997) for the use of foundry sand. These guidelines were written for IDEM and approved by the Foundry Sand Task Force.

Guidance regarding the related issues of foundry sand storage facilities and the requirements for waste classification in accordance with 329 IAC 10-9-4 can be obtained from the Office of Solid Waste by calling 317/232-3111.

Although not addressed in HEA 1541 (P.L.129-1997), foundry sands that meet type IV criteria as specified in 329 IAC 10-9-4, are excluded from the provisions of Indiana's Solid Waste Rule (329 IAC 10-3-4). Therefore, type IV foundry sands may also be acceptable for the uses specified in this guidance.

Information may be obtained from the Indiana Cast Metals Association regarding current availability of foundry sands for use under HEA 1541 (P.L.129-1997). Data on amount of foundry sand previously used with the type of use may also be available. Please contact the Executive Director of the Indiana Cast Metals Association at 317/571-5600.

### **Daily Cover at Landfill:**

Use of foundry sand for daily cover is allowed under the statute if done in accordance with the applicable permit issued to the landfill. Daily cover is used to control fires, disease vectors, odors, scavenging and blowing litter at the landfill. Indiana Solid Waste Rule, 329 IAC 10, allows the use of materials, other than soil, for the purpose of a daily cover if the alternative material or facility design provides a level of environmental protection equal to that provided by soil.

Approval to use foundry sand that has been classified by OSHWM as Type II, III or IV, per 329 IAC 10-9-4, as an alternative daily cover is granted by modification



of a municipal solid waste landfill's (MSWLF) operating permit. A list of landfills having permit approval to use foundry sand may be obtained by calling 317/233-2711. Please note that permit conditions which allow the use of foundry sand may vary between the landfills permitted to use foundry sand. MSWLF's not currently approved to use foundry sand must do so through the permit modification process prior to any use of foundry sand as an alternative daily cover.

If the MSWLF does not have prior approval, the MSWLF must apply for a modification to their permit.

Since all of the above products are commonly used and understood by individuals in their respective industry, no definitions are offered for those products. However, the last item, "Other similar products", does deserve further discussion. Although not specifically listed in this category, use at another foundry in the



manufacturing process is allowed. Any other product manufactured must be similar to one of the other products listed. In order to be considered a similar product, it must be chemically and physically similar to at least one product specifically mentioned above. If a product is not specifically mentioned above or not similar to another product mentioned above, then IDEM approval is required prior to use.

and vaults may be placed on compacted foundry sand and backfilled with compacted foundry sand.

Item H, Construction or Architectural Fill does not include the use of foundry sand for land reclamation purposes.

Foundry sand may not remain uncovered when it is used for items A through I; it must be covered with either soil, asphalt or concrete. Soil used as a cover should comply with the clay loam, requirements identified in Item E, Utility Trenches.

#### **Use as a Raw Material:**

This category includes the following uses:

- (A) Flowable fill
- (B) Concrete
- (C) Asphalt
- (D) Brick
- (E) Block
- (F) Portland cement
- (G) Glass
- (H) Roofing materials
- (I) Rock wool
- (J) Plastics
- (K) Fiberglass
- (L) Mineral wool
- (M) Lightweight aggregate
- (N) Paint
- (O) Plaster
- (P) Other similar products



#### **Protective Cover for Landfill Leachate Collection**

**System:** 329 IAC 10-17-11 allows the use of foundry sand as the protective cover material located above the drainage layer of a MSWLF's liner system. The drainage layer is typically a granular or geosynthetic material located above the MSWLF's geomembrane liner whose function is to direct leachate to a collection sump for removal from the landfill.

Use of foundry sand as protective cover material must be done in accordance with 329 IAC 10-17-11 and 329 IAC 10-17-12. A permit modification may be required to use foundry sand if the MSWLF's operating permit requires the use of a specific material as protective cover. For further information please contact the Solid Waste Engineering Section at 317/233-1659 or 317/232-8840.

#### **Capped Embankments:**

The term "capped embankment", as used in HEA 1541 (P.L. 129-1997), means an embankment supporting a roadway or other structure, whose sideslopes are covered with soil suitable for the growth of normal, healthy vegetation, such as: sandy loam, sandy clay loam, clay or other suitable material free from clods, debris and stones. The soil should be at least one foot thick and should prevent erosion. If the soil will not support vegetation, then six inches of top soil should be added to the cover soil. Top soil should consist of loose friable soil, free of refuse, stumps, large roots, rocks over 2 inches in diameter, brush, weeds or other materials detrimental to the proper development of vegetative growth.

Embankments may be constructed with "weep holes" to

allow for the relief of built-up pore water pressure. The use of weep holes during construction will not violate the requirement for capping.

**Ground and Site Barriers (under 10,000 cubic yards):** Capped embankments for ground and sight barriers are long, low, narrow structures constructed of foundry sand above the existing ground surface. These structures do not support roadways or other structures and are capped over their entire surface area as described in the "Capped Embankment" section above. Sharp objects should be removed from foundry sand that is used for ground and sight barriers and properly disposed. Foundry sand may however contain trace amounts of metallics.

Please note that HEA 1541 (P.L. 129-1997) limits construction of ground and site barriers to less than 10,000 cubic yards. Use of foundry sand in a larger ground and site barrier can only be done with IDEM approval.

**Structural Fill Base:**

This category lists the following uses:

- (A) Roads
- (B) Road shoulders
- (C) Parking lots
- (D) Floor slabs
- (E) Utility trenches
- (F) Bridge abutments
- (G) Tanks and vaults
- (H) Construction or architectural fill



(I) Other similar uses

Item A, Roads; item C, Parking Lots; and item D, Floor Slabs must be constructed of either of the following two materials: concrete or asphalt.

Sub-base or base for roadways or parking lots and associated utility backfills: Foundry sands may be used as a sub-base or base under State, County or Municipal roadways or parking lots and the utilities contained within them. The base shall be considered as the area lying within typical roadway boundaries where soil or aggregate is used from the bottom of the pavement down.

Item E, Utility Trenches do not need to be located within the boundaries of a roadway, parking lot or floor slab to use foundry sand as a bedding material and backfill material. However any utility trench not located within the boundary of a roadway, parking lot or floor slab must be covered with a soil suitable for the growth of normal, healthy vegetation, such as: sandy loam, sandy clay loam, clay loam, clay or other suitable material free from clods, debris and stones. The depth of the soil cover should be in accordance with generally accepted engineering practices. In the absence of applicable provisions, it is recommended the cover be a minimum of six (6) inches.

Item G, Tanks and Vaults means that abandoned tanks and vaults may be filled with foundry sand or that tanks